What is claimed is:

1. An alignment device, comprising:

a longitudinal guide portion, having a longitudinal opening including a guide axis;

a spherical portion coupled to an end of the longitudinal guide portion;

a base unit, having a deformable spherical socket for mating with the spherical portion; and

an actuating device operatively connected to the spherical socket, wherein the actuating device is not in direct contact with the spherical portion.

2. The alignment device of claim 1, further including at least one relief opening in a portion of the spherical socket, allowing deformation of the spherical socket.

3. The alignment device of claim 1, wherein the actuating device is adapted to cause substantially symmetric tightening of the spherical socket around at least a part of the spherical portion.

4. The alignment device of claim 1, wherein the base unit is adapted to mount directly to a skull of a subject.

5. The alignment device of claim 1, wherein the actuating device includes a threaded locking ring adapted to engage a number of threads coupled to the spherical socket.

6. The alignment device of claim 1, wherein at least one relief opening includes three relief openings substantially equally spaced about a circumference of the spherical socket.

7. The alignment device of claim 1, further including at least one standoff feature attached to the base unit, wherein a substantial portion of the base unit is adapted to mount above a work surface.

8. The alignment device of claim 7, wherein at least one standoff feature is adapted to contact the work surface along a line.

9. The alignment device of claim 7, wherein at least one standoff feature is adapted to contact the work surface along a circle.

10. The alignment device of claim 1, further including an orienting fixture attached to the longitudinal guide portion, wherein the orienting fixture is detectable using tissue imaging techniques.

11. An alignment device, comprising:

a longitudinal guide portion, having a longitudinal opening including a guide axis;

a spherical portion coupled to an end of the longitudinal guide portion;

a base unit, having a spherical socket for mating with the spherical portion;

at least one securing device adapted to secure the base unit to a working surface;

at least one relief opening in a portion of the spherical socket, allowing deformation of the spherical socket;

an actuating device coupled to the spherical socket, adapted to cause substantially symmetric tightening of the spherical socket around at least a part of the spherical portion; and

a number of standoff features attached to the base unit, wherein a substantial portion of the base unit is adapted to mount above the work surface.

12. The alignment device of claim 11, wherein the number of standoff features attached to the base unit includes three standoff features.

13. The alignment device of claim 11, wherein the number of standoff features attached to the base unit includes a wedge shaped standoff feature.

14. The alignment device of claim 11, wherein the number of standoff features attached to the base unit includes a truncated cone shaped standoff feature.

15. The alignment device of claim 11, wherein the actuating device includes a threaded locking ring adapted to engage a number of threads coupled to the spherical socket.

16. The alignment device of claim 11, wherein at least one relief opening includes three relief openings substantially equally spaced about a circumference of the spherical socket.

17. An alignment device, comprising:

a longitudinal guide portion, having a longitudinal opening including a guide axis;

a spherical portion coupled to an end of the longitudinal guide portion;

a base unit, having a deformable spherical socket for mating with the spherical portion; and

an actuating device operatively connected to the spherical socket, wherein the actuating device is not in direct contact with the spherical portion;

a number of standoff features attached to the base unit, wherein a substantial portion of the base unit is adapted to mount above the work surface; and

a screw retention feature coupled to the base unit.

18. The alignment device of claim 17, wherein the screw retention feature includes an elastomer band.

19. The alignment device of claim 17, wherein the screw retention feature includes a structure that protrudes into a portion of a screw opening in the base unit.

20. The alignment device of claim 17, wherein the screw retention feature is located external to, and above a screw opening.

21. The alignment device of claim 17, wherein at least one standoff feature includes a shelf to determine an attachment thickness.

22. An alignment device, comprising:

a longitudinal guide portion, having a longitudinal opening including a guide axis;

an insert located substantially within the longitudinal opening wherein an outer diameter of the insert fits closely with the longitudinal opening, and an inner diameter is sized to fit closely with a device to be guided;

a spherical portion coupled to an end of the longitudinal guide portion;

a base unit, having a spherical socket for mating with the spherical portion;

at least one securing device adapted to secure the base unit to a working surface;

at least one relief opening in a portion of the spherical socket, allowing deformation of the socket;

an actuating device coupled to the spherical socket, adapted to cause substantially symmetric tightening of the spherical socket around at least a part of the spherical portion; and

a number of standoff features attached to the base unit, wherein a substantial portion of the base unit is adapted to mount above the work surface.

23. The alignment device of claim 22, wherein the insert includes an inner diameter that is sized to fit closely with a biopsy probe.

24. The alignment device of claim 22, wherein at least one standoff feature is adapted to contact the work surface along a line.

25. The alignment device of claim 22, wherein at least one standoff feature is adapted to contact the work surface along a circle.

26. A method of manufacturing an alignment device, comprising:

forming a longitudinal guide portion with a longitudinal opening that defines a guide axis;

attaching a spherical portion to an end of the longitudinal guide portion;

forming a base unit that includes a spherical socket for mating with the spherical portion;

opening a relief feature in a portion of the spherical socket, allowing deformation of the socket; and

coupling an actuating device to the spherical socket, the actuating device being adapted to cause substantially symmetric tightening of the spherical socket around at least a part of the spherical portion.

27. The method of claim 26, wherein coupling the actuating device to the spherical socket includes coupling a threaded locking ring to the spherical socket to engage a number of threads on the spherical socket.

28. The method of claim 26, wherein opening a relief feature in a portion of the spherical socket includes opening three relief openings substantially equally spaced about a circumference of the spherical socket.

29. The method of claim 26, further including attaching at least one standoff feature to the base unit, wherein a substantial portion of the base unit is adapted to mount above a work surface.

30. The method of claim 29, wherein attaching at least one standoff feature to the base unit includes attaching at least one standoff feature to the base unit that is adapted to contact the work surface along a line.

31. The method of claim 29, wherein attaching at least one standoff feature to the base unit includes attaching at least one standoff feature to the base unit that is adapted to contact the work surface along a circle.

32. The method of claim 29, further including attaching an orienting fixture to the longitudinal guide portion, wherein the orienting fixture is detectable using tissue imaging techniques.

33. The method of claim 29, further including placing an insert substantially within the longitudinal opening wherein an outer diameter of the insert is adapted to fit closely with the longitudinal opening, and an inner diameter is sized to fit closely with a device to be guided.

34. The method of claim 33, wherein placing an insert substantially within the longitudinal opening includes placing an insert substantially within the longitudinal opening wherein the inner diameter is sized to fit closely with a biopsy probe.